

Table of flood stages in March 1935—Continued

River and station	Flood stage	Above flood stages— dates		Crest	
		From—	To—	Stage	Date
Ohio:	<i>Feet</i>			<i>Feet</i>	
Pittsburgh, Pa.	25	12	13	26.3	13
Dam No. 6, Beaver, Pa.	30	13	14	31.9	13
Dam No. 25, near Addison, Ohio	43	15	16	46.8	14
Point Pleasant, W. Va.	40	13	16	43.6	14
Dam No. 26, near Chambersburg, Ohio	50	15	15	50.0	15
Dam No. 29, near Ashland, Ky.	50	14	16	53.9	14
Dam No. 30, near Greenup, Ky.	52	14	16	53.7	15
Portsmouth, Ohio	50	15	16	51.1	15
Dam No. 33, near Maysville, Ky.	50	15	16	51.1	16
Dam No. 35, New Richmond, Ohio	48	16	17	48.4	16
Cincinnati, Ohio	52	16	17	52.4	16
Dam No. 37, Fernbank Ohio	50	16	18	51.6	16
Dam No. 38, near Grant, Ky.	51	17	17	51.0	17
Madison, Ind.	46	17	17	46.0	17
Dam No. 41, Louisville, Ky.	51	16	19	52.9	18
Dam No. 43, Evans Landing, Ind.	55	16	19	57.8	18
Dam No. 44, Leavenworth, Ind.	50	15	21	57.6	18
Dam No. 45, Addison, Ky.	47	16	20	50.3	18
Dam No. 46, Owensboro, Ky.	41	17	21	42.4	19
Dam No. 47, Newburgh, Ind.	38	13	24	45.0	19
		29	(1)	(1)	(1)
Evansville, Ind.	35	13	25	42.9	20
		28	(1)	(1)	(1)
Dam No. 48, near Henderson, Ky.	38	14	25	44.8	20
		31	(1)	(1)	(1)
Dam No. 49, near Uniontown, Ky.	37	15	28	44.1	22
		30	(1)	(1)	(1)
Dam No. 50, Fords Ferry, Ky.	34	13	(1)	47.1	22
Dam No. 51, Golconda, Ill.	40	16	27	45.0	22
Dam No. 52, Brookport, Ill.	37	13	(1)	47.3	23
Dam No. 53, near Mound City, Ill.	42	12	(1)	52.1	23
Cairo, Ill.	40	12	(1)	49.9	23
White Basin					
Black:					
Leeper, Mo.	11	11	12	18.8	11
Poplar Bluff, Mo.	14	11	15	19.1	12
Black Rock, Ark.	14	11	(1)	26.7	12
White:					
Cotter, Ark.	21	12	14	35.2	13
Calico Rock, Ark.	18	11	15	41.8	12
		25	26	19.9	25
Batesville, Ark.	23	11	16	38.6	13
		25	28	26.7	25
Newport, Ark.	26	13	Apr. 1	33.7	14
Georgetown, Ark.	21	13	(1)	31.3	18
Clarendon, Ark.	26	16	(1)	33.7	26
Arkansas Basin					
Neosho: Fort Gibson, Okla.	22	13	14	24.0	13
		5	8	22.8	6
Petit Jean: Danville, Ark.	20	11	15	26.2	12
		22	26	26.7	23

Table of flood stages in March 1935—Continued

River and station	Flood stage	Above flood stages— dates		Crest	
		From—	To—	Stage	Date
Arkansas:	<i>Feet</i>			<i>Feet</i>	
Webbers Falls, Okla.	23	13	14	24.5	13
Fort Smith, Ark.	22	13	15	25.4	14
		25	27	24.1	26
Van Buren, Ark.	22	13	15	25.4	14
		25	27	24.0	26
Ozark, Ark.	22	15	15	22.1	15
Dardanelle, Ark.	22	15	15	22.5	15
Morrilton, Ark.	20	14	16	21.6	15
		26	28	22.3	27
Red Basin					
Ouachita:					
Arkadelphia, Ark.	17	5	5	13.2	12
Camden, Ark.	26	12	13	19.6	12
		15	19	29.0	16
Sulphur:					
Ringo Crossing, Tex.	20	5	7	23.2	5
Naples, Tex.	22	10	15	23.6	12
Lower Mississippi Basin					
Big Lake Outlet: Manila, Ark.	10	Jan. 3	2	1 6.8	Jan. 28-29
		10	(1)	19.4	22-24
St. Francis:					
Fisk, Mo.	20	11	18	27.0	12
St. Francis, Ark.	18	11	(1)	28.2	15
St. Francis Lock, Ark.	27	21	(1)	29.2	25-27
Parkin, Ark.	28	30	(1)	(1)	(1)
Madison, Ark.	32	29	(1)	(1)	(1)
Tallahatchie: Swan Lake, Miss.	26	Jan. 10	(1)	34.1	Jan. 31
				31.6	17
Yazoo:					
Greenwood, Miss.	35	16	24	35.6	20
Yazoo City, Miss.	29	5	(1)	(1)	(1)
Mississippi:					
New Madrid, Mo.	34	13	(1)	39.9	23-24
Memphis, Tenn.	34	21	(1)	37.2	28
Helena, Ark.	30	18	(1)	(1)	(1)
Arkansas City, Ark.	42	22	(1)	(1)	(1)
Greenville, Miss.	36	23	(1)	(1)	(1)
Atchafalaya Basin					
Atchafalaya: Atchafalaya, La.	22	15	(1)	(1)	(1)

Continued into April.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, W. F. McDONALD in Charge]

NORTH ATLANTIC OCEAN, MARCH 1935

By H. C. HUNTER

Atmospheric pressure.—From Maine to Iceland and the Azores the average pressure for March was moderately subnormal with the maximum deficiency, about 0.20 inch, over Davis Strait. Elsewhere over the North Atlantic and adjacent shores the pressure averaged higher than normal, the greatest excess, 0.33 inch, occurring over the Shetlands, and pressures 0.10 or less above normal over the eastern United States. The period from 9th to 11th was marked by especially high pressure over substantially all the ocean north of 30° latitude, except near southern Greenland.

The highest reported reading from a vessel was 30.71 inches on the 12th by the American steamship *Cliffwood*, when a short distance northwest of Scotland. The station at Lerwick, Shetland Islands, noted still higher pressures daily from the 9th to the 12th, while some coast stations of Norway had higher than 30.90 inches on the 9th.

The lowest reading noted by a vessel was 28.51 inches, on the American steamship *Quaker City*, at 3 p. m. the 17th, in latitude 55° N., longitude 28° W.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, March 1935

Station	Average pressure	Departure	Highest	Date	Lowest	Date
	<i>Inches</i>	<i>Inch</i>	<i>Inches</i>		<i>Inches</i>	
Julianehaab, Greenland	29.50		30.00	26	28.99	7
Reykjavik, Iceland	29.67	−0.01	30.30	11	28.87	1
Lerwick, Shetland Islands	30.03	+0.33	30.88	9	29.28	23
Valencia, Ireland	30.11	+0.21	30.54	12	29.17	1
Lisbon, Portugal	30.11	+0.11	30.41	3	29.76	15
Madeira	30.10	+0.09	30.43	1	29.83	26
Horta, Azores	30.09	−0.09	30.45	1	29.79	17
Belle Isle, Newfoundland	29.61	−0.19	30.14	9	28.88	26
Halifax, Nova Scotia	29.91	−0.05	30.46	9	29.24	24
Nantucket	30.00	+0.05	30.64	9	29.31	13
Hatteras	30.12	+0.08	30.69	9	29.46	26
Bermuda	30.17	+0.03	30.46	10	29.54	26
Turks Island	30.10	+0.08	30.17	11	29.93	26
Key West	30.10	+0.05	30.39	1	29.86	27
New Orleans	30.08	+0.04	30.51	1	29.69	12

NOTE.—All data based on a. m. observations only, with departures compiled from best available normals related to time of observation, except Hatteras, Key West, Nantucket, and New Orleans, which are 24-hour corrected means.

Cyclones and gales.—Gales were numerous, though not so many as in each of the 3 next preceding months. Only 1 report of force 12 during March has come to hand, and only 7 of force 11.

Several ships encountered gales in the waters southwest of Ireland on the 1st. The British steamship *Jamaica Producer* recorded force 11. Thereafter conditions were less stormy until the 8th, when the high-pressure area over northwestern Europe showed increased strength and another strong anticyclone was nearing the lower Lakes in its southeastward movement toward the North Atlantic coast. Between these areas pressure was decidedly low south of Cape Farewell and rather low north of Bermuda. Several whole gales and a wind of force 11 were noted near mid-ocean on the 8th to 11th. The low from near Bermuda was by the 11th near the thirty-fifth meridian, while another low had begun to affect the west Gulf region.

On the 12th (chart IX) low-pressure centers were near the Atlantic coast of the United States and near and to southward of southern Greenland, while high pressure extended from Bermuda to Madeira and thence northeastward to Norway. Strong winds were noted this day in many parts of the ocean where the gradient was steep; one instance of force 11 was reported by the Dutch motorship *Tanimbar*, close to 42° N., 40° W.

Only a few gales were recorded on the 14th and 15th, but on the 16th the British motorship *Irisbank* noted force 11 east-northeast of Bermuda.

Chart X shows the conditions of the 18th, when decidedly low pressure extended from Newfoundland eastward to within 400 miles of Ireland. Several instances of forces 9 to 11 were noted on or about this day, and the single instance of hurricane force (12) was recorded during the afternoon of the 17th, by the American steamship *Quaker City* which also reported the lowest pressure of the month, as noted above.

After the 19th few gales of importance occurred east of the fortieth meridian and except during the 4-day period, 24th to 27th, not many elsewhere. Decidedly low pressure was persistent during the latter period in the general region of Nova Scotia and Newfoundland, causing strong winds, almost invariably from a southerly or westerly point, along the chief routes, mainly between the sixty-fifth and forty-fifth meridians. The French liner *Paris* recorded force 11 from the west at an early hour of the 25th, near 42° N., 51° W.

About the 8th and 9th, when pressure was notably high near Bermuda and Hatteras, there were several reports of gales from a northwesterly or northerly direction, by vessels near the thirtieth parallel of latitude, between the Florida coast and the fifty-fifth meridian. The American steamship *Solana* noted force 10 in this region.

Trade winds of much greater force than usual were noted in the Caribbean Sea on the 2d and 12th.

Fog.—There was more fog than there had been during February in some areas near the Gulf and Atlantic coasts of the United States, in parts of the Grand Banks region, and especially in and near the English Channel. In this last-named region fog was decidedly more prevalent than usual in March, as it was likewise near Delaware and Chesapeake Bays, and in the northwestern Gulf of Mexico.

In other North Atlantic regions the fog situation was not far from normal, save from the waters adjacent to New England eastward nearly to the Grand Banks, where there was less fog than would be expected.

The chief period of fog in waters bordering on England and northwestern France was the 18th to 21st; also the English Channel had considerable from the 26th to 29th. The Grand Banks region noted widespread fog about the 3d and for a period of fully a week near the middle of the month. The 5° square from 40° to 45° N., 45° to 50° W., reported fog altogether on nine different days of the month.

Over the waters adjacent to Nova Scotia and New England there were scattered occurrences of fog during the first week and about the 12th. Near Delaware and Chesapeake Bays fog occurred chiefly about the 6th, 12th, 20th, and 31st, and in the square 35° to 40° N., 70° to 75° W., there were 9 days during March on which fog was noted.

From Cape Hatteras to southern Florida and in the northeastern Gulf of Mexico fog was very seldom met, but it was quite otherwise in the northwestern part of the Gulf. The waters in the square 25° to 30° N., 90° to 95° W., experienced fog from the 6th to 9th, and again from the 21st to 23d, 7 days altogether.

OCEAN GALES AND STORMS, MARCH 1935

Vessel	Voyage		Position at time of lowest barometer		Gale began March —	Time of lowest barometer March —	Gale ended March —	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN													
City of Hamburg, Am. S. S.	Norfolk	London	49 12 N.	20 57 W.	1	4a, 1	1	<i>Inches</i> 29.30	SW	SW, 8	WNW	W, 9	SW-W.
Jamaica Producer, Br. S. S.	Kingston	Rotterdam	48 50 N.	16 00 W.	26	8a, 1	1	29.33	WNW	W, 8	NW	WNW, 11	W-NNW.
Mercier, Belg. S. S.	Antwerp	New York	49 46 N.	13 08 W.	1	9a, 1	1	29.32	WSW	WSW, 8	WNW	WNW, 10	W-WSW-WNW.
General Gassouin, Fr. M. S.	New York	Antwerp	49 26 N.	10 04 W.	1	10a, 1	2	29.06	W	W, 8	NW	W, 9	W-NW.
Bodegraven, Du. S. S.	Cristobal	Liverpool	11 26 N.	74 50 W.	1	4p, 2	6	29.71	NE	NE, 8	E	NE, 8	None.
Leerdam, Du. S. S.	Chester, Pa.	Rotterdam	39 32 N.	68 32 W.	3	8a, 3	5	30.04	NNW	SW, 4	N	NW, 10	SW-NW.
London Corporation, Br. S. S.	Halifax	Liverpool	43 00 N.	57 00 W.	4	3a, 4	6	29.51	S	W, 9	W	W, 10	S-W.
Frode, Dan. S. S.	Emmingham, Eng.	Halifax	44 49 N.	52 17 W.	4	9a, 4	5	29.29	W	W, 6	WNW	W, 10	WSW-W.
Maine, Dan. S. S.	New York	Copenhagen	55 30 N.	26 15 W.	5	Mdt, 5	7	29.62	SSE	S, 9	SSE	S, 10	S-SSW-W.
Sandown Castle, Br. S. S.	London	New York	49 15 N.	24 45 W.	6	3p, 6	6	29.60	S	SSW, 9	SW	S, 10	S-SSW-W.
Lustrous, Br. S. S.	Falmouth, Eng.	Port Arthur	42 10 N.	25 20 W.	6	4p, 6	6	29.68	SSE	SW, 6	W	S, 10	S-WSW.
Steelmaker, Am. S. S.	Cristobal	London	39 34 N.	36 05 W.	5	4a, 7	7	29.54	WSW	WSW, 8	W	NW, 9	SW-W.
Solana, Am. S. S.	New Orleans	New York	30 30 N.	79 15 W.	8	7a, 8	9	30.06	NE	W, 4	NE	NE, 10	W-NNW.
London Corporation, Br. S. S.	Halifax	Liverpool	49 28 N.	23 20 W.	8	8a, 9	10	29.47	SE	SE, 11	SE	SE, 11	Steady.
Leerdam, Du. S. S.	Chester, Pa.	Rotterdam	48 32 N.	26 00 W.	8	10a, 9	10	29.16	S	SE, 9	SE	SE, 9	SSE-W-N.
Excelsior, Am. S. S.	Casablanca	New York	37 00 N.	41 56 W.	9	6a, 10	10	29.37	SSW	SW, 8	WNW	WNW, 9	SSW-W.

1 February.